Wood River Valley Modeling Technical Advisory Committee
Modeling Objectives

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Modeling Objectives

• Aquifer models built for a variety of reasons
  – Water quality/contaminant transport
  – Water temperature
  – Groundwater flow (delineation of wellhead protection areas, eval. of management alternatives, hydrologic impact assessments, etc.)

• Need to consider scale when designing model, evaluating model predictions, and assigning model input

• Definition of objectives necessary to build the right tool for the job
Wrong tool for the job
Why a groundwater flow model?

• Big Wood River upstream from Magic Reservoir fully appropriated (1980)

• Groundwater and surface water are hydraulically connected (1991)

• Need to be able to evaluate gw/sw interaction

• GW flow model is tool of choice for planning, water resource management, and conjunctive administration
Additional Requirements

• Accessible to public

• Transparency in development

• Defensible and well documented

• Other
Draft Design Objectives

1. Represent current understanding of aquifer system and gw/sw interaction

2. Up-to-date, accurate water budget (recharge and discharge)

3. Investigate gw/sw dynamics on valley-wide scale

4. Evaluate WRV aquifer management options
Draft Design Objectives

5. Serve as tool for aquifer planning

6. Serve as tool for conjunctive administration
   – Aquifer curtailment analyses
   – Mitigation requirements
   – Groundwater right transfers

7. Improve understanding of aquifer system and guide future investigations
Draft Design Objectives

8. Defensible in litigation
   – Scientifically accepted modeling platform
   – USGS highly regarded for modeling expertise
   – MTAC allows technical concerns to be aired and addressed during model development

9. Accessible and well documented
   – Model and code are public domain
   – Data available via the Internet
   – Peer-reviewed USGS scientific report
Discussion